

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 11117830  
PUBLICATION DATE : 27-04-99

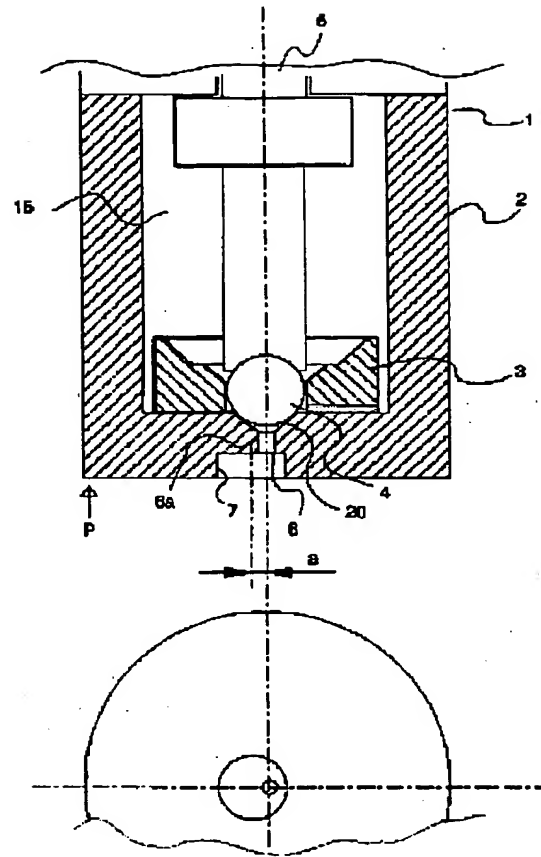
APPLICATION DATE : 20-10-97  
APPLICATION NUMBER : 09286511

APPLICANT : HITACHI LTD;

INVENTOR : OSUGA MINORU;

INT.CL. : F02M 61/18 F02M 61/18 F02M 51/08

TITLE : INJECTOR



**ABSTRACT :** PROBLEM TO BE SOLVED: To avoid low atomization and ununiformity of distribution of fuel spray by providing the nozzle tip part of an injector with a fuel injection nozzle hole and a fuel guide nozzle hole larger in cross-sectional area than the fuel injection nozzle hole and eccentric from the fuel injection nozzle hole, and providing a swirling force generating element.

**SOLUTION:** Pressurized fuel flowing in from the upper part of an injector reaches a fuel passage 15 at the tip of the injector, and when a movable valve 5 is moved up by a valve opening signal, the fuel is pushed out of a clearance formed between the movable valve 5 and a seat face 20. At this time, horizontal swirling force is imparted to the fuel at the time of passing a fuel swirling element 3, and the fuel is measured by an orifice of a fuel injection nozzle hole 6 and injected to the outside. At the time of passing a fuel guide nozzle hole 7 provided in an eccentric position from the fuel injection nozzle hole 6, downstream of the fuel injection nozzle hole 6, various grades of components are imparted to the speed vertical to the swirling direction of the fuel, so that fuel spray comes to have solid and uniform concentration distribution so as to improve on combustibility.

COPYRIGHT: (C)1999,JPO

BEST AVAILABLE COPY